

WHAT IS CLAIMED IS:

1. A magnetically inert headset comprising:  
an ear cup;  
an outer set portion disposed in the ear cup, and adapted to cover an ear;  
an inner set portion disposed in the outer set portion, including an ear insert adapted to fit into an ear canal and having a through-hole; and  
a pneumatic port disposed in the hole in the ear insert to couple audible sound waves to the ear canal.
2. The headset of claim 1 comprising a stethoscope-type yoke to couple the pneumatic port to a non-magnetic audio transducer.
3. The headset of claim 2 comprising an adapter coupled to the outer set portion and having a substantially conical opening to receive and to guide an end of the pneumatic port into the stethoscope-type yoke.
4. The headset of claim 2 wherein the non-magnetic audio transducer comprises a piezoelectric transducer.
5. The headset of claim 2 wherein the non-magnetic audio transducer comprises an electrostatic transducer.
6. The headset of claim 2 comprising a non-magnetic microphone coupled to the outer set portion.
7. The headset of claim 6 wherein the non-magnetic microphone comprises a fiber-optic microphone.
8. The headset of claim 6 wherein the non-magnetic microphone comprises a piezoelectric microphone.

9. The headset of claim 4 comprising a non-magnetic microphone coupled to the outer set portion.
10. The headset of claim 9 wherein the non-magnetic microphone comprises a fiber-optic microphone.
11. The headset of claim 9 wherein the non-magnetic microphone comprises a piezoelectric microphone.
12. The headset of claim 1 wherein the ear cup has a removable piece to provide access to the ear insert and pneumatic port.
13. The headset of claim 1 comprising a non-magnetic acoustic driver coupled to the pneumatic port.
14. The headset of claim 13 comprising a non-magnetic microphone.
15. The headset of claim 14 wherein the non-magnetic microphone comprises a fiber-optic microphone.
16. The headset of claim 14 wherein the non-magnetic microphone comprises a piezoelectric microphone.
17. The headset of claim 16 wherein the ear cup has a removable piece to provide access to the ear insert and pneumatic port.
18. The headset of claim 16 comprising a non-magnetic audio transducer coupled to the pneumatic port.
19. The headset of claim 18 wherein the non-magnetic audio transducer comprises a piezoelectric transducer.

20. The headset of claim 18 wherein the non-magnetic audio transducer comprises an electrostatic transducer.

21. A magnetically inert headset comprising:

an ear insert having a through-hole and adapted to fit into an ear canal;

a pneumatic port disposed in the hole in the ear insert to receive audible sound waves and couple the sound waves to the ear canal;

a non-magnetic microphone coupled to the headset; and

a stethoscope-type yoke acoustically coupled to the pneumatic port to couple the audible sound waves from a non-magnetic transducer.

22. The headset of claim 21 wherein the non-magnetic transducer comprises an audio transducer disposed in a magnet room of a magnetic resonance imaging system.

23. The headset of claim 21 wherein the non-magnetic transducer comprises a piezoelectric transducer.

24. The headset of claim 21 wherein the non-magnetic transducer comprises an electrostatic transducer.

25. A non-magnetic headset system comprising:

an audio transducer;

a non-magnetic headset including an ear insert having a through-hole and adapted to fit into an ear canal; and

a pneumatic port disposed in the hole in the ear insert to receive audible sound waves from the audio transducer.

26. The system of claim 25 wherein the audio transducer comprises a magnetically inert transducer.

27. The system of claim 26 wherein the magnetically inert transducer comprises a piezoelectric transducer.
28. The headset of claim 2 wherein the non-magnetic audio transducer comprises an electrostatic transducer.
29. A method comprising:  
inserting an ear insert having a through-hole into an ear canal of a user;  
disposing a pneumatic port into the hole in the ear insert;  
disposing the ear insert and the pneumatic port in an outer set portion;  
coupling the pneumatic port to a pneumatic tube; and  
coupling the pneumatic tube to an output of an audio transducer.
30. The method of claim 29 wherein the pneumatic port is coupled to the pneumatic tube through an adapter having a substantially conical opening on one end.
31. The method of claim 29 comprising disposing the ear insert and pneumatic port in an ear cup having sound absorbing foam.
32. The method of claim 29 comprising providing a non-magnetic microphone to enable communication between the user and another person.
33. The headset of claim 32 wherein the non-magnetic microphone comprises a fiber-optic microphone.
34. The headset of claim 32 wherein the non-magnetic microphone comprises a piezoelectric microphone.